

**Notice of Allowability**

Application No.

10/770,407

Examiner

Tesfaldet Bocure

Applicant(s)

MAGRATH, ANTHONY J.

Art Unit

2611

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/07/07.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 2/04/04 & 5/07/07
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other Drawing Correction

Tesfaldet Bocure  
Primary Examiner  
AU2611

Part of Paper No./Mail Date 20070511

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

#### **In the Abstract:**

Line 9, after bit flipping, "means" has been changed to read as ---circuit---.

Line 11, after compensation, "means" has been changed to read as ---circuit---.

#### **Remarks:**

2. The above Examiner's Amendment was made to change the legal phraseology, "mean," used in the patent claims rather than in the abstract of the disclosure.

### **Reasons for Allowance**

3. The following is an examiner's statement of reasons for allowance: The claimed subject in claims 1-21 is allowable because the arts of record fail to teach or fairly suggest the claimed: "A bit-flipping sigma-delta modulator for a class d amplifier and comprising: a quantiser coupled to a bit-flipping means; one or more look-ahead quantisers; and a controller having inputs from the quantiser and the look-ahead quantiser and arranged to enable the bit-flipping means to provide a different output from that of the quantiser in order to reduce the quantised output transition rate of the

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modulator; a feedback circuit arranged to add a portion of the quantiser output to the input signal path of the modulator, and further comprising an **integrator circuit (see integrator in fig. 6a at the input path of the quantiser Q ) in the input signal path between the input and the quantiser, the integrator circuit having a compensation circuit for adjusting the input to the quantiser when said previous modulator output has been changed by the bit flipping means from said previous quantiser output,**” as in claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

#### ***Information Disclosure Statement***

4. The prior art, “Digital Power Amplification using Sigma-Delta Modulation and bit-flipping,” cited in the Information Disclosure Statement (IDS) received on 05/07/07 is the same as the once cited in the IDS received on 2/04/04 considered by the Examiner. Considering the same prior art twice on the same patent application would result in appearing twice on the front of the patent once issued.

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**Conclusion**

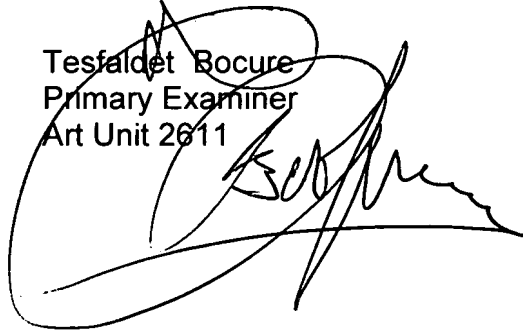
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeanie (Jay) Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

T.Bocure

Tesfaldet Bocure  
Primary Examiner  
Art Unit 2611



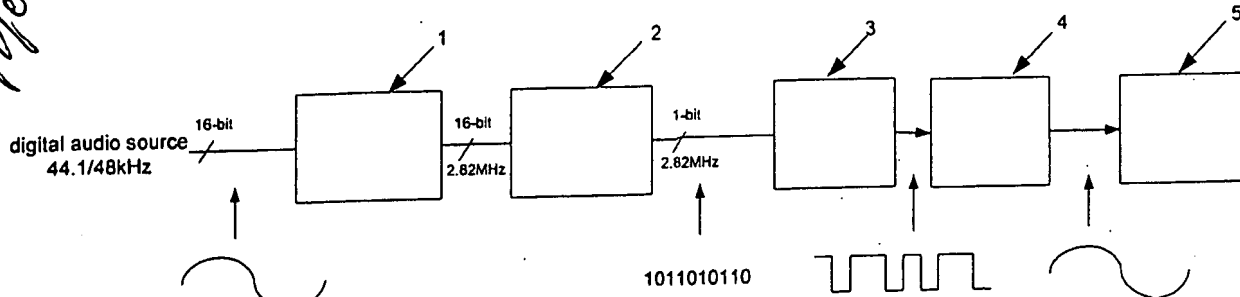


Fig 1

PRIOR ART

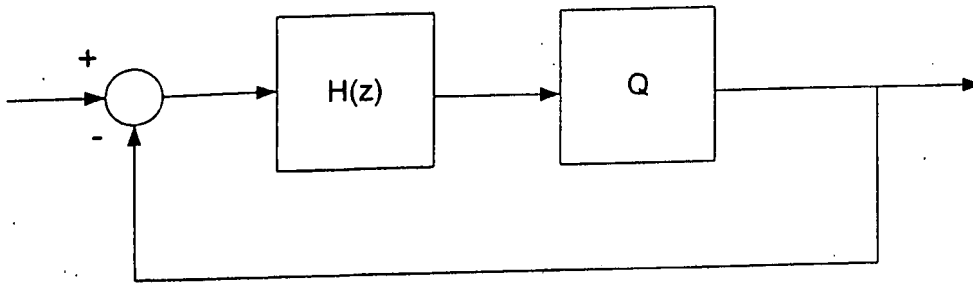


Fig 2

PRIOR ART

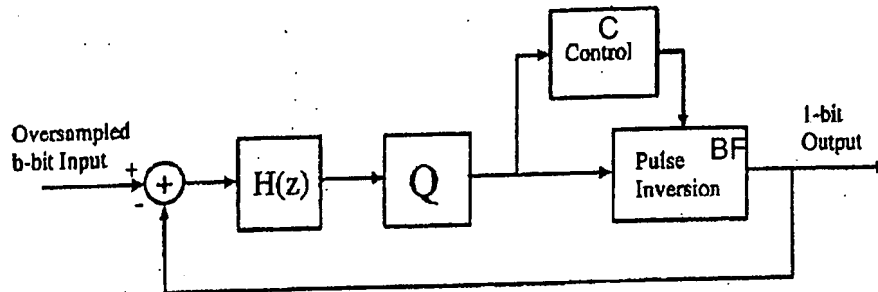


Fig 3

PRIOR ART

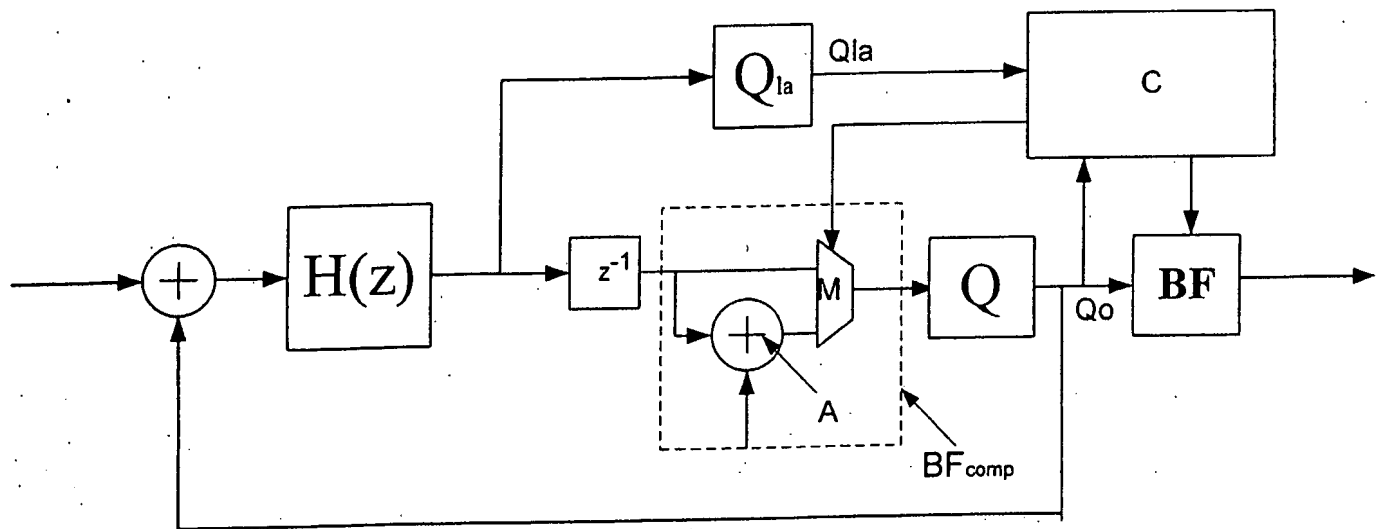


Fig 4

PRIOR ART

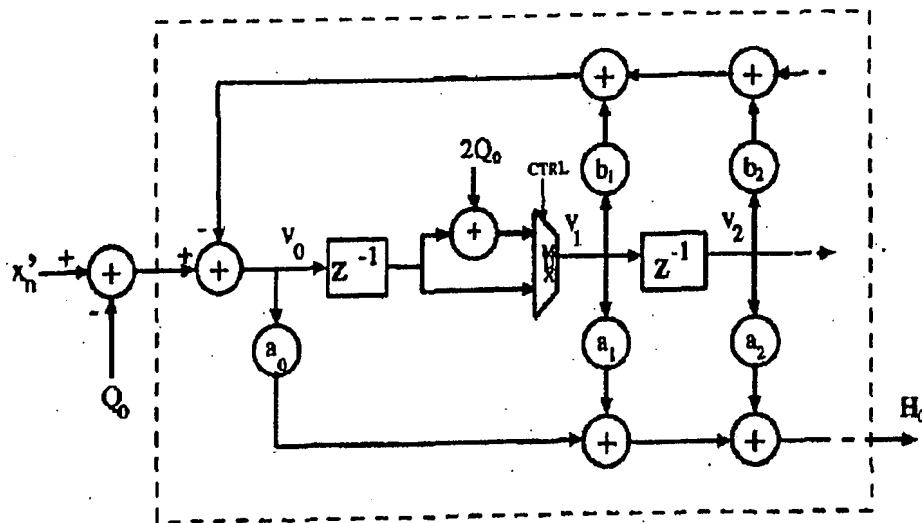


Fig 5